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August 27, 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Unit 2
Stainless Steel Piping
Inspection and Repair Plan
Winter 1986 Refueling Outage
NRC Docket No. 50-237

Reference: J. A. Zwolinski letter to D. L. Farrar dated March 22, 1985 and accompanying Safety Evaluation Report.

Dear Mr. Denton:

In the referenced letter, the NRC required that plans for inspection and/or modification of the reactor coolant pressure boundary piping systems during the next Dresden Unit 2 refueling outage be submitted for NRC review at least three months prior to start of the outage. The next refueling outage for Dresden Unit 2 is planned to begin around December 1, 1986. Therefore, in compliance with the referenced letter, we submit the following inspection plan which meets the requirements of generic letter 84-11.

1. It is not planned to apply Induction Heating Stress Improvement (IHSI) to any welds during the outage, since hydrogen water chemistry is being applied.

2. The accompanying table titled "Dredsen Unit #2 84-11 Augmented Inspection Plan", provides the sampling plan for addressing the Intergranular Stress Corrosion Cracking (IGSCC) concerns during the Dresden Unit 2 Winter 1986 outage.

3. Currently there are eight weld overlays installed at Dresden Unit 2. One weld overlay covers a weld that has an indication greater than 10% of circumference. In accordance with GL 84-11, this overlay will be inspected using EPRI techniques.

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The remaining seven overlays cover welds with indications less than 10% of circumference. Three of the seven overlays cover axial indications and are designed as leakage barrier overlays. One overlay is a designed overlay. The remaining three are full structural. We are currently not planning to inspect these overlays.

4. Three cracked welds, one 28 inch and two 12 inch, on the recirculation system, which are mitigated by hydrogen addition, are included in the augmented inspection plan.

5. The furnace sensitized safe ends (FSSE) at Dresden will be inspected in the same manner as the 1984 Dresden 2 outage. A sample of the FSSE will be inspected. We believe this is justified because all FSSE, including the entire volume of each safe-end and the attachment welds, were examined during the 1983 outage. No crack indications were reported. The radiation exposure level is high. In the general areas of the safe-ends, a saving of radiation exposure of 30 man-rem is anticipated by not examining all FSSE. Hydrogen water chemistry has been implemented for the last two cycles and will continue to be implemented during the next fuel cycle. Laboratory test results as well as limited field experience have shown that hydrogen water chemistry is effective in inhibiting crack initiation and growth.

6. All stainless steel weld examinations will be performed by special Level II inspectors, qualified by EPRI after September 10, 1985. Examinations on weld overlays will be performed by a special Level II qualified by EPRI to inspect weld overlays.

7. Each flaw indication identified during the inspections will be evaluated in accordance with the guidance of NUREG-1061 Volume 1 and GL 84-11. If repairs are required, weld overlays will be utilized which take into account flaw characterization, depth, length, and material toughness concerns for SMAW and SAW deposited material. All welds with an axial crack will have an overlay repair applied.

8. If cracks are found within the inspected sample of a specific piping category, another equivalent sample of the same number in that category will be inspected. Categories are defined by the horizontal lines on the accompanying table. For example, the first category is Recirculation which would include Risers, N-SE 12", Outlets, N-SE 28", and header. The next category would include LPCI/SDC, SDC, RWCU, and IsoCondenser 14" and 12".

To prevent any impact on our refueling outage schedule, we request your concurrence with this Inspection Plan by November 1, 1986.

If you have any further questions regarding this matter, please contact this office.

One signed original and forty (40) copies of this letter and its attachment is provided for your use.

Very truly yours,

J. R. Wojnarowski
Nuclear Licensing Administrator

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Attachment

cc: R. Gilbert - NRR
Region III Inspector - Dresden

2039K

Dresden Unit #2 84-11 Augmented Inspection Plan

1	2	3	4	5	6	7	8	9	10	11
SYSTEM	SIZE	TOTAL	1984 84-11 EXAM	NO QUALIFIED EXAMS	NO QUALIFIED EXAMS 1986/84-11 SAMPLE	WELD OVERLAYS	WELDS OVERLAY SAMPLE	CRACKED	EXAMINED WELDS 1986/84-11 SAMPLE	1986 84-11 TOTAL SAMPLE
Recirculation										
Risers	12"	50	12	29	6[b]	7	0	2	2	10
Outlets	28"	33	9	23	5[c]	0	0	1	2	8
Header	22"	18	6	12	4	0	0	0	2	6
LPCI/SDC	16"	42	11	31[a]	6	0	0	0	2	8
SDC	14"	4	2	2[a]	0	0	0	0	2	2
RWCU	8"	10	9	0	0	1	1	0	2	3
ISO Condenser	14"	16	4	12[a]	4	0	0	0	2	6
ISO Condenser	12"	13	6	7[a]	4	0	0	0	2	6
Recirc/CRD/HV	4"	26	10	16	4	0	0	0	2	6
JPI		10	10	0	0	0	0	0	2	2
		222			33		1	3	20	57

COLUMN

3 - TOTAL STAINLESS STEEL WELDS SUSCEPTIBLE TO IGSCC ON A PARTICULAR SYSTEM OR SIZE.
4 - TOTAL WELDS EXAMINED UNDER GENERIC LETTER 84-11 CRITERIA. EXAMINERS WERE QUALIFIED TO THE 83-02 QUALIFICATION.
5 - TOTAL WELDS NOT EXAMINED UNDER THE I E BULLETIN OR GENERIC LETTER.
6 - GENERIC LETTER 84-11 1986 SAMPLE OF WELDS THAT WERE NOT EXAMINED UNDER 83-02 QUALIFICATION.
7 - TOTAL WELD OVERLAYS ON A PARTICULAR SYSTEM AND SIZE.
8 - GENERIC LETTER 84-11 WELD OVERLAY SAMPLE. OVERLAID WELDS WITH CRACKS GREATER THAN 10% OF THEIR CIRCUMFERANCE WILL BE INSPECTED.
9 - TOTAL CRACKED WELDS WITH HYDROGEN ADDITION AS A MITIGATOR.
10 - GENERIC LETTER 84-11 1986 SAMPLE OF WELDS THAT WERE EXAMINED UNDER THE 83-02 QUALIFICATION.
11 - GENERIC LETTER 84-11 1986 TOTAL SAMPLE.

NOTE: [a] - 2 WELDS ON 16" LPCI, 2 WELDS ON 14" SDC, 1 WELD ON 14" AND 1 WELD ON 12" ISO CONDENSER, ARE INACCESSIBLE TO UT.
[b] - SAMPLE INCLUDES TWO 12" NOZZLE TO SAFE END WELDS.
[c] - SAMPLE INCLUDES ONE 28" NOZZLE TO SAFE END WELDS.